



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

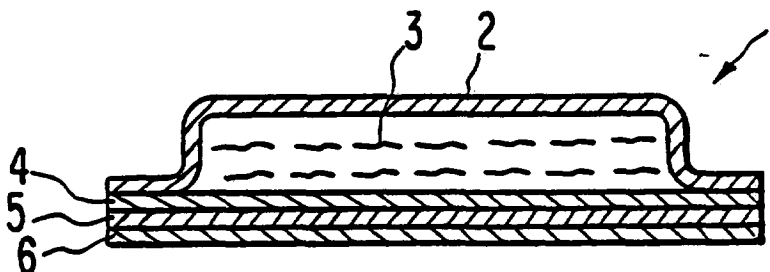
(51) International Patent Classification <sup>4</sup> :  A61L 15/03, A61K 9/70		A1	(11) International Publication Number: WO 89/12470  (43) International Publication Date: 28 December 1989 (28.12.89)
(21) International Application Number: PCT/US89/02561 (22) International Filing Date: 13 June 1989 (13.06.89) (30) Priority data: 206,546                      14 June 1988 (14.06.88)      US 284,283                      14 December 1988 (14.12.88)    US (60) Parent Applications or Grants (63) Related by Continuation US                                      206,546 (CIP) Filed on                              14 June 1988 (14.06.88) US                                      284,283 (CIP) Filed on                              14 December 1988 (14.12.88) (71) Applicant (for all designated States except US): ALZA CORPORATION [US/US]; 950 Page Mill Road, Palo Alto, CA 94303-0802 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): OSBORNE, James, L. [US/US]; 2365 Thompson Court, Mountain View, CA 94043 (US). NELSON, Melinda [US/US]; 1127 Hollenbeck Road, Sunnyvale, CA 94087 (US). ENSCORE, David, James [US/US]; 18291 Montpere Way, Saratoga, CA 95070 (US). YUM, Su, II [US/US]; 1021 Runnymede Court,		Los Altos, CA 94022 (US). GALE, Robert, M. [US/US]; 1276 Russell Avenue, Los Altos, CA 94022 (US). CAMPBELL, Patricia, S. [US/US]; 140 Middlefield Road, Palo Alto, CA 94301 (US). (74) Agents: STONE, Steven, F. et al.; ALZA Corporation, 950 Page Mill Road, Palo Alto, CA 94303-0802 (US). (81) Designated States: AT (European patent), AU, BE (European patent), CH (European patent), DE (European patent), DK, FI, FR (European patent), GB (European patent), IT (European patent), JP, KR, LU (European patent), NL (European patent), NO, SE, SE (European patent), US, US. Published With international search report. With amended claims and statement.	

RECEIVED  
PHILIP MORRIS MANAGEMENT CORP.  
LAW DEPT.-PATENT SECTION

JAN 29 1990

NOTED \_\_\_\_\_

(54) Title: SUBSATURATED TRANSDERMAL DELIVERY DEVICE



## (57) Abstract

Subsaturated, rate controlled delivery devices (1) for delivering an agent (5). The initial equilibrated concentration of the agent in the agent reservoir (3) and the adhesive (5) is below saturation. The initial loading of the agent in reservoir (3) is sufficient to prevent the activity of the agent in the reservoir (3) from decreasing by more than about 75 % and preferably no more than about 25 % during the predetermined period of administration. The thicknesses of the adhesive (5), rate controlling membrane (4) and reservoir (3) layers are selected so that at least 50 % and, preferably at least 75 % of the initial equilibrated agent loading is in the reservoir layer (3). The devices (1) are usable to deliver agents which are liquid at body temperatures such as benzotropine, secoverine, nicotine, arecoline, polyethylene glycol monolaurate, glycerol monolaurate, glycerol monooleate and ethanol, for example.

2021391984